

Notice of Allowability

Application No.

09/991,287

Examiner

John J. Zimmerman

Applicant(s)

STROBEL, RICHARD W.

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the communication received December 6, 2004.
2. ☒ The allowed claim(s) is/are 1-3, 7-11, 15-20, 25-29, 33, 34, 37-50 and 52-55.
3. ☒ The drawings filed on November 14, 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 20041206
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 20050106.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

JOHN J. ZIMMERMAN
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert H. Walat on January 6, 2005.

The application has been amended as follows: Replace "electrical connector" with -- automotive mating electrical connector -- :claims 1-3 (line 1), claims 7-11 (line 1), claims 15-20 (line 1), claims 25-29 (line 1), claims 33-34 (line 1), claim 39 (lines 1-2 and last line), claim 46 (line 2 and last line) and claim 52 (line 1 and last line).

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: The claims have been amended to replace "electrical connector" with "automotive mating electrical connector".

Automotive mating electrical connectors are understood by those in the art to be plug-type mating electrical connectors as is also evidenced by the discussion in the specification of fretting corrosion by micromotion, application of force and cycle life for these types of mated connectors (e.g. see page 2, third paragraph; page 3, last paragraph; page 7, last paragraph; page 10 last

Art Unit: 1775

paragraph, etc. . .). An "automotive mating electrical connector" is a type of electrical connector that has a known meaning to one of ordinary skill in the electrical connector art and automotive mating electrical connectors are distinct in both type and considerations from electrical connectors that are soldered. While the prior art of record does disclose various tin/silver solder alloys (e.g. particularly see Harada, Lupfer, EP 0629466 A1, JP 2000-319793; JP 11-191322, etc. . .) associated with solder connections, the use of these particular alloys would not have been obvious to one of ordinary skill in the art with respect to the properties necessary for insertion cycles required for plug-type connectors. Brinkmann, however, is particularly relevant to the claimed invention since it does involve a tin alloy plated plug-type connector and also discloses a Markush grouping of additive alloying elements including silver and working examples including silver. The Van Vliet declaration (December 6, 2004) is effective in showing that Brinkmann's teachings as a whole would lead one of ordinary skill in the art away from the specific composition ranges required by the pending claims. Working example 1 of Brinkmann uses a silver content well below the silver range of the pending claims and also includes phosphorous which is excluded by the "consisting of" language of the pending claims. Brinkmann discloses that the coating materials of his invention should have the "lowest possible melting point" (e.g. see column 2, lines 33-34) while optimizing both hardness and electrical conductivity for his invention. As noted by the Van Vliet declaration, the 3-20 wt.% silver content of the pending claims leads towards increasing melting points and Brinkmann gives no express teaching that further increasing silver content would increase hardness. Since Brinkmann does not disclose the claimed invention with sufficient specificity to anticipate the pending claims (see MPEP 2131.02), applicant's showing of increasing nanoindentation hardness

Art Unit: 1775


with a silver content in the claimed ranges can be taken into account in determining the patentability of the claimed invention over Brinkmann's broad disclosure. When silver is chosen from the Markush group of alloying additives in Brinkmann, the examiner agrees that Brinkmann's teachings as a whole do lead one of ordinary skill in the art to use low silver contents as evidenced by the working examples and Brinkmann's discussion of using the lowest possible melting point alloys. In view of the above, the pending claims do constitute a different invention and a patentable distinction over the teachings of Brinkmann. Regarding the use of nanoindentation to measure hardness, the Van Vliet declaration clarifies the level of ordinary skill in the art in using this technique and is sufficient to remove the prior rejections under 35 U.S.C. 112, first and second paragraphs.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Zimmerman whose telephone number is (571) 272-1547. The examiner can normally be reached on 8:30am-5:00pm, M-F. Supervisor Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1775

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John J. Zimmerman
Primary Examiner
Art Unit 1775

jjz
January 6, 2005